REMARKS

Claims 61-87 are pending in the instant application. At the outset, Applicant gratefully acknowledges the withdrawal of the rejections over U.S. Patent No. 5,696,962 to Kupiec '962 as the primary reference. In the most recent Office Action, claims 79-82 are rejected under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent No. 6,665,666 to Brown (hereinafter, "Brown '666"). Claims 61-63, 75, 77-78 and 83 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Brown '666 in view of U.S. Patent No. 5,696,962 to Kupiec (hereinafter, "Kupiec '962"). Claims 64-66 and 68-71 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Brown '666 in view of Kupiec '962 and further in view of U.S. Patent No. 6,678,679 to Bradford (hereinafter, "Bradford '697"). Claim 67 is rejected under 35 U.S.C. § 103(a) as allegedly obvious over Brown '666 in view of Kupiec '962 and Bradford '697, and further in view of Robertson et al., "Relevance Weighting of Search Terms" (hereinafter, "Roberston"). Claims 72-74 and 84-86 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Brown '666 in view of Kupiec '962, and further in view of U.S. Patent No. 6,070,133 to Brewster (hereinafter, "Brewester '133"). Claim 76 is rejected under 35 U.S.C. § 103(a) as allegedly obvious over Brown '666 in view of Kupiec '962 and further in view of U.S. Patent No. 5,442,778 to Pedersen (hereinafter, "Pedersen '778"). Claim 87 is rejected under 35 U.S.C. § 103(a) as allegedly obvious over Brown '666 in view of Kupiec '962, Brewester '133 and Pedersen '778. Claims 63, 72-74 and 80-81 are objected to for minor informalities.

As amended above, claims 63, 72 and 80 reflect the correction prescribed by the Examiner. The amendments are merely editorial in nature, and are tangential to the substance of the claims. A similar editorial amendment has been made to claim 79. No new matter has been added. Favorable reconsideration and withdrawal of the objection is kindly requested.

On the merits of the claims, Applicant respectfully traverses all rejections, for at least the following reasons. Independent claim 79 recites a method for retrieving documents from an information retrieval system, the method comprising, *inter alia*, (a) generating candidate query transformations for each question type as a substitute for the question phrase as a search term, from a collection of question phrase-answer pairs, where the candidate query transformations for a question type were automatically derived from the answers associated with the question phrases in the question phrase-answer pairs which match the question type, and further, (b) applying a query transformation to a query based on the question type, resulting in a transformed query which is processed by the information retrieval system, where the query transformation has been selected for the question type for the information retrieval system based in part on evaluating performance of a generated candidate query transformations by executing the information retrieval system using queries formulated by applying the candidate query transformations to the question phrases in the question phrase-answer pairs and comparing results from the information retrieval system to the answers in the question phrase-answer pairs. The Office Action avers that these features are present in Brown '666, citing to Col. 9, line 10 – Col, 12, line 38 for (a) above and Col. 15, line 64 – Col. 16 line 60 for (b) above. Applicant respectfully disagrees.

Regarding (a) above, the cited portion of Brown '666 discloses a technique in which a natural language query is augmented by transforming the query in accordance with rules specified in what is referred to as a "Patterns-file" which is set forth in FIG. 3. As described in the cited passages in Brown '666, when the search engine encounters a query which includes the terms "WHICH COUNTRY", the search engine consults the "Patterns-file" which specifies that the term "COUNTRY" is to be dropped from the query and a special question type label,

referred to as a "QA-Token", is added which informs the search engine that the query is searching for a "$COUNTRY". It should be noted that this transformation of the natural language query into a query more suited for searching by the search engine is specified by the search engine designer who must create the "Patterns-file" table. Brown '666 does **not** disclose any technique for automatically generating how to transform the query. Rather, Brown '666 discloses a specific type of transformation as set forth in FIG. 3.

In contrast, the present invention does not work from pre-specified transformation rules found in a "Patterns-file"-like table. As recited in the independent claims herein, candidate query transformations are automatically generated rather than specified by a search engine designer in a pre-defined table. How the search engine decides to transform a query (that is to say, *possibly* transform the query, since these are "candidate" query transformations which are further processed as reflected in the rest of the claim) is "automatically derived" from a collection of question phrase-answer pairs. This is a collection of pre-specified known answers to known questions. Brown '666 notably does not disclose using a collection of known answers with associated question phrases to automatically derive the transformation rules for a query.

Regarding (b) above, the cited portion of Brown '666 relates to a method for scoring a set of retrieved documents among each other, for the purpose of arranging them in order of presumed relevance. In contrast to Brown '666, the invention as recited in claim 79 the selection of query transformation is based upon the performance of the particular candidate query transformation when that candidate query transformation is executed in an information retrieval system. The results of the candidate execution retrieval are compared to the answers in the question phrase-answer pairs that formed the basis for the query transformations. Therefore, according to claim 79, the selection criterion for a query transformation includes an objective

quantitative evaluation of the performance of the candidate query transformation in an information retrieval, whose results are compared to the answers which were the basis for the creation of that candidate query transformation. On the other hand, Brown '666 merely orders the resulting documents among those retrieved in a relative fashion, without comparison of those results to the information that was the test set and basis for the query.

Therefore, Applicant respectfully submits that independent claim 79 is patentably distinguished over Brown '666. It has been held by the courts that "Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Company et al.*, 730 F.2d 1452, 221 USPQ 481 (Fed. Cir., 1984). Claims 80-82 each depend, either directly or indirectly, from independent claim 79. These dependent claims are each separately patentable, but are offered as patentable for at least the same reasons as their underlying independent base claim.

Turning then to the rejection of independent claim 61 as allegedly obvious over Brown '666 in view of Kupiec '962, the rejection is similarly lacking. Claim 61 recites a method for retrieving answers to questions from an information retrieval system, the method comprising, *inter alia*, (a) generating candidate query transformations for each question type to substitute for the question phrase as a search term, from a collection of question phrase-answer pairs, where the candidate query transformation for a question type is automatically derived from the answers associated with the question phrases in the question phrase-answer pairs which match the question type, and further, (b) evaluating performance of a generated candidate query transformations by executing the information retrieval system using queries formulated by applying the candidate query transformations and comparing results from the information

retrieval system to the answers in the question phrase-answer pairs. As with claim 79, the Office Action avers these features to be present in Brown '666. Similarly, as demonstrated above, Brown '666 fails to teach both generating candidate query transformations for each question type to substitute for the question phrase as a search term, from a collection of question phrase-answer pairs, where the candidate query transformation for a question type is automatically derived from the answers associated with the question phrases in the question phrase-answer pairs which match the question type, and (b) evaluating performance of the generated candidate query transformations by comparison of the results obtained using the candidate query transformation to those answers used to generate the candidate query transformation.

Turning then to Kupiec '962, even presuming the reference teaches what is attributed to it and presuming also a proper motivation in the prior art for one of ordinary skill to combine the reference with Brown '666, Kupiec '962 neither offers nor is alleged to offer any teaching or suggestion to ameliorate the underlying deficiency of Brown '666 relative to the claim. This much is implicitly acknowledged by the Office Action in that it withdrew rejections based upon Kupiec '962 as the primary reference.

It has been held by the courts that to establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. See, *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). As illustrated above, neither Brown '666 nor Kupiec '962, taking singly or in any combination, teach or suggest all features of independent claim 61. Therefore, Applicant respectfully submits that claim 61 is patentably distinguished over the combination of references.

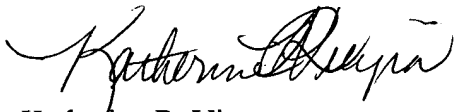
Each of claims 62-78 and 80-87 (to the extent not already addressed, *supra*) depend either directly or indirectly from independent claims 61 and 79, respectively. The Bradford '697,

Robertson, Brewester '133 and Pedersen '778 references, taken singly or in any combination with Brown '666 or Kupiec '962, do not, nor are they alleged to, teach or suggest the features of independent claims 61 and 79 shown above to be lacking from both Brown '666 and Kupiec '962. These dependent claims are each separately patentably, but are offered as patentable for at least the same reasons as their underlying independent base claims which form a part thereof. Therefore, favorable reconsideration and withdrawal of the all rejections kindly requested.

In the interest of brevity, Applicant has addressed only so much of the rejections as is considered sufficient to demonstrate the patentability of all claims. Applicant's failure to address any part of the rejection should not be construed as acquiescence in the propriety of such portions not addressed. Applicant maintains that the claims are patentable for reasons other than these specifically discussed, *supra*.

In light of the foregoing, Applicant respectfully submits that all pending claims recite patentable subject matter, and kindly solicits an early and favorable indication of allowability. If the Examiner has any reservation in allowing the claims, and believes a further telephone interview would advance prosecution, he is kindly requested to telephone the undersigned at his earliest convenience.

Respectfully Submitted,



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